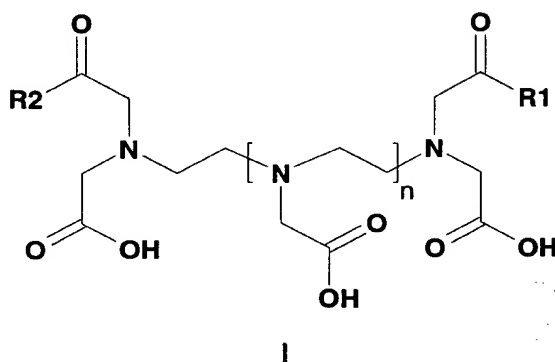


Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

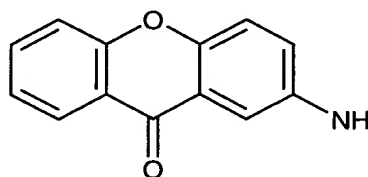
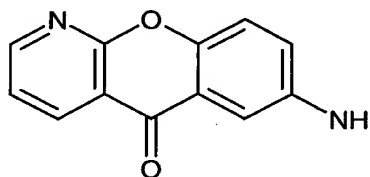
11. (Currently amended) A compound of Formula I:



wherein:

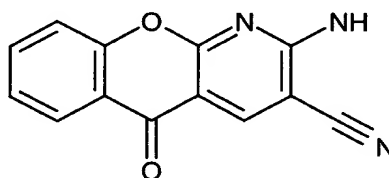
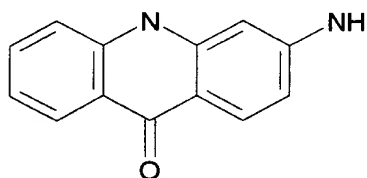
$[N\backslash]_n$ is a chelator selected from the group consisting of:
diethylenetriaminepentaacetic acid (DTPA), wherein $n=1$ in Formula I,
triethylenetetraaminehexaacetic acid (TTHA), wherein $n=2$ in Formula I, and a
polycarboxylate derivative of DTPA or TTHA, which chelates a lanthanide metal
cation;

R1 is a phenone selected from the following group:

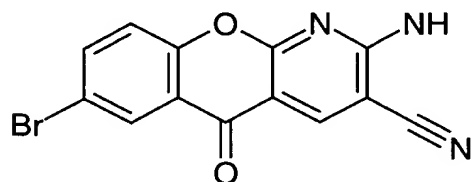


7AAX

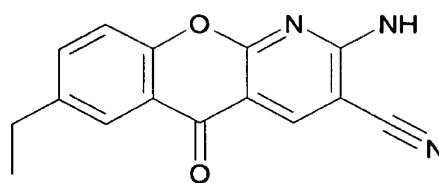
2AX



3AAC



2ACAX



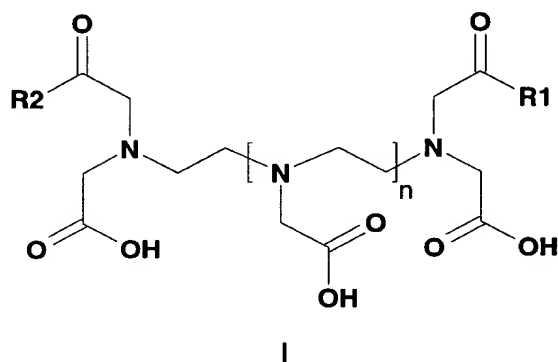
2ACBAX

2ACEAX; and

R2 is selected from the group consisting of: OH, NH(CH₂)_nOH, NH(CH₂)_nNH₂, NH(CH₂)_nPhNH₂, NH(CH₂)_nPhOH, NHCH(CO₂H)CH₂PhNH₂, NH(CH₂)_nPhNCS; wherein n is 1-6.

Claims 12-16 (Canceled)

17. (Previously presented) A method for using a compound of Formula I:



wherein:

[N/]_n is a chelator selected from the group consisting of: diethylenetriaminepentaacetic acid (DTPA), wherein n= 1 in Formula I, triethylenetetraaminehexaacetic acid (TTHA), wherein n=2 in Formula I, and a polycarboxylate derivative of DTPA or TTHA, which chelates a lanthanide metal cation;

R1 is a phenone; and

R2 is selected from the group consisting of: OH, NH(CH₂)_nOH, NH(CH₂)_nNH₂, NH(CH₂)_nPhNH₂, NH(CH₂)_nPhOH, NHCH(CO₂H)CH₂PhNH₂, NH(CH₂)_nPhNCS; wherein n is 1-6;

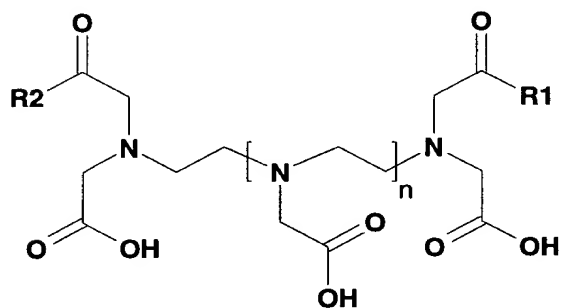
in fluorescence detection-based techniques or bioassays comprising the steps of:

- a. labelling an aliquot comprising donor biomolecules selected from the group consisting of: peptides, proteins, deoxyribonucleic acids (DNAs), ribonucleic acids (RNAs), enzyme substrates, and ligand molecules with a compound of Formula I by a linking reaction with linker R2 to provide a labelled biomolecule assay sample;
- b. adding a suitable amount of a suitable organic dye to the labelled biomolecule assay sample;
- c. exciting the labelled biomolecule assay sample in a suitable fluorescence instrument to provide a fluorescence emission for quantitation.

18. (Previously presented) A method according to Claim 17 wherein said organic dye is selected from the group consisting of: rhodamine, allophycocyanin (APC) and indodicarbocyanin (CY-5).

19. (Currently amended) A kit for fluorescence detection-based techniques or bioassays comprising:

- a. a suitable amount of a compound of Formula I



wherein:

 [NA]n is a chelator selected from the group consisting of:

diethylenetriaminepentaacetic acid (DTPA), wherein n= 1 in Formula I,

triethylenetetraaminehexaacetic acid (TTHA), wherein n=2 in Formula I, and a

polycarboxylate derivative of DTPA or TTHA, which chelates a lanthanide metal cation;

 R1 is a phenone; and

R2 is selected from the group consisting of: OH, NH(CH₂)_nOH, NH(CH₂)_nNH₂, NH(CH₂)_nPhNH₂, NH(CH₂)_nPhOH, NHCH(CO₂H)CH₂PhNH₂, NH(CH₂)_nPhNCS; wherein n is 1-6 according to Claim 11; and

b. a suitable amount of organic dye.

20. (Previously presented) A kit according to Claim 19 wherein said organic dye is selected from the group consisting of: rhodamine, allophycocyanin (APC) and indodicarbocyanin (CY-5).

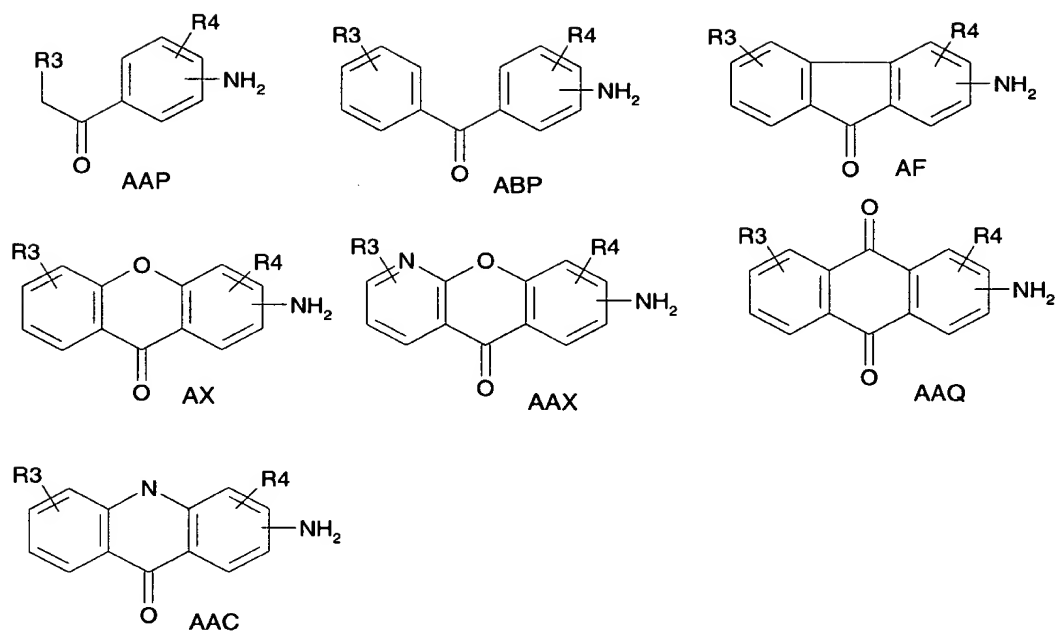
21. (New) A compound according to Claim 11 wherein R3 and R4 are independently selected from the group consisting of: H, OH, NH₂, COCH₃, CPh, OPh, NPh, CN, NO₂, CO₂H, and CO₂CH₃.

22. (New) A compound according to Claim 11 wherein [N_A]_n is DTPA, wherein n= 1 in Formula I.

23. (New) A compound according to Claim 11 wherein the lanthanide metal cation is selected from the group consisting of: Tb III, Eu III, Sm III, and Dy III.

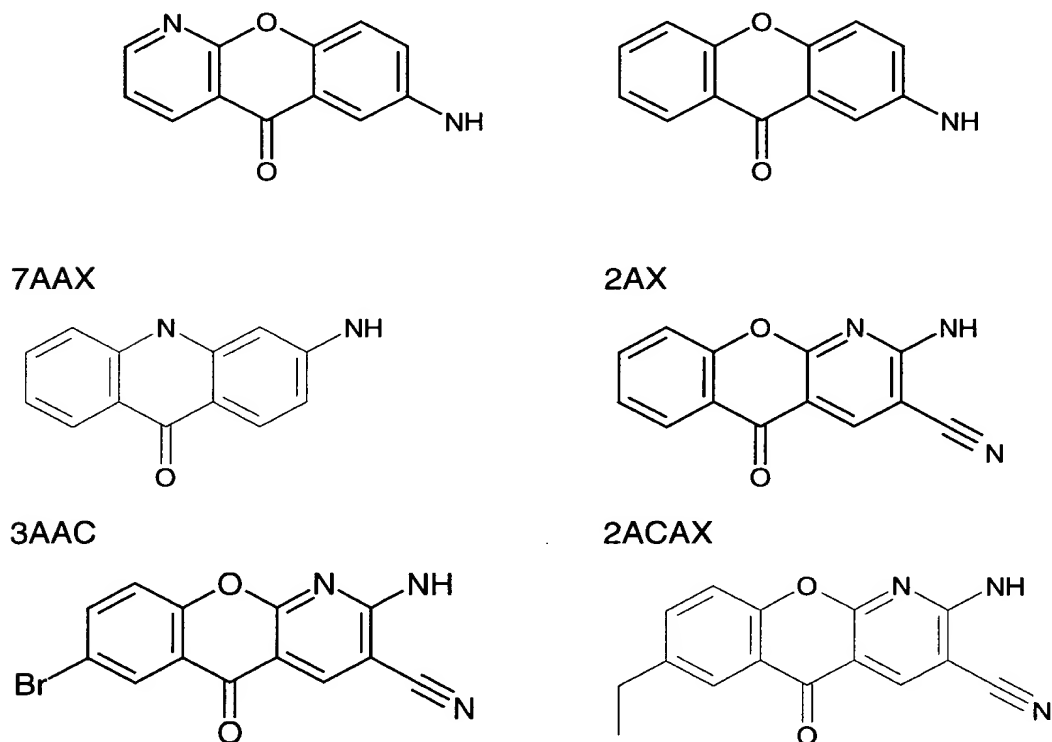
24. (New) A compound according to Claim 23 wherein the lanthanide metal cation is selected from the group consisting of: Eu III or Tb III.

25. (New) A method according to Claim 17 wherein the phenone is selected from the group consisting of: aminoacetophenones (AAP), aminobenzophenones (ABP), aminofluorenones (AF), aminoxantones (AX), amino-azaxanthenes (AAX), aminoanthraquinones (AAQ), and aminoacridones (AAC):



wherein R3 and R4 are independently selected from the group consisting of: H, OH, NH₂, COCH₃, CPh, OPh, NPh, CN, NO₂, CO₂H, and CO₂CH₃.

26. (New) A method according to Claim 17 wherein the phenone is selected from the following group:



2ACBAX

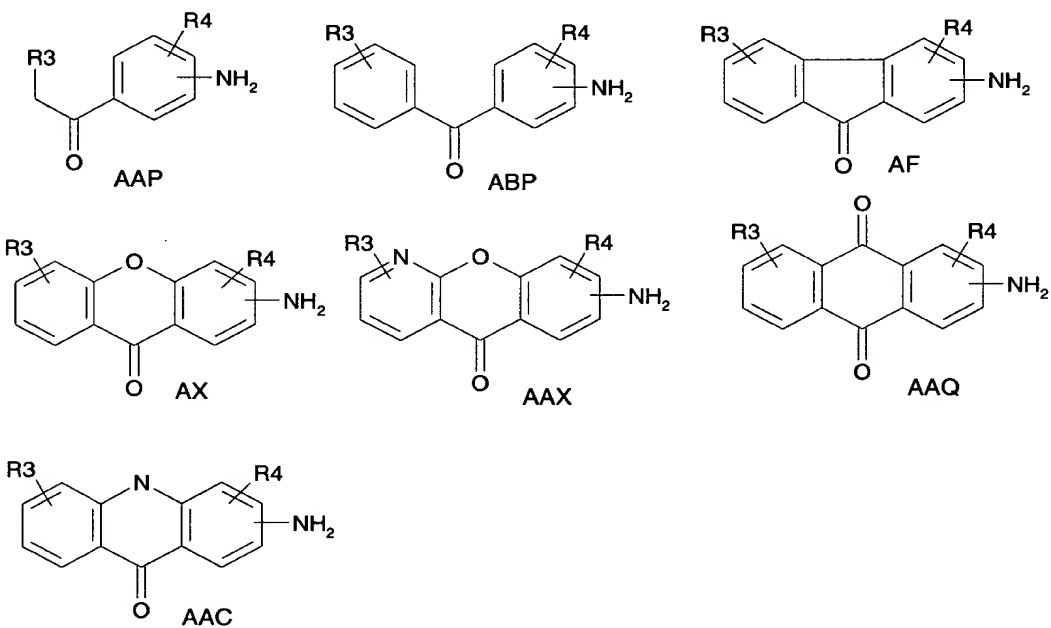
2ACEAX

27. (New) A method according to Claim 17 wherein $[N\backslash]_n$ is DTPA, wherein $n = 1$ in Formula I.

28. (New) A method according to Claim 17 wherein the lanthanide metal cation is selected from the group consisting of: Tb III, Eu III, Sm III, and Dy III.

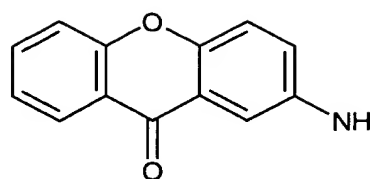
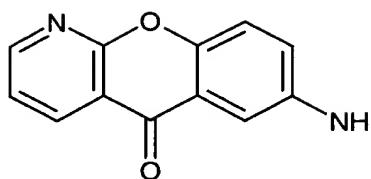
29. (New) A method according to Claim 28 wherein the lanthanide metal cation is selected from the group consisting of: Eu III or Tb III.

30. (New) A kit according to Claim 19 wherein the phenone is selected from the group consisting of: aminoacetophenones (AAP), aminobenzophenones (ABP), aminofluorenones (AF), aminoxantones (AX), amino-azaxanthones (AAX), aminoanthraquinones (AAQ), and aminoacridones (AAC):

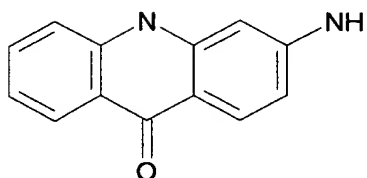


wherein R₃ and R₄ are independently selected from the group consisting of: H, OH, NH₂, COCH₃, CPh, OPh, NPh, CN, NO₂, CO₂H, and CO₂CH₃.

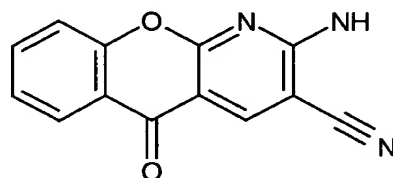
31. (New) A kit according to Claim 19 wherein the phenone is selected from the following group:



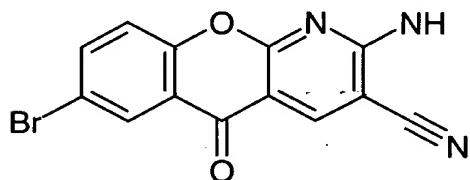
7AAX



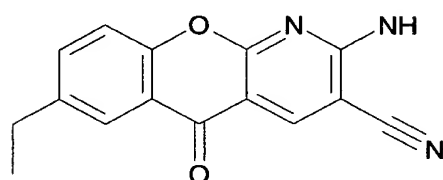
2AX



3AAC



2ACAX



2ACBAX

2ACEAX

32. (New) A kit according to Claim 19 wherein $[N^{\wedge}]_n$ is DTPA, wherein $n = 1$ in Formula I.

33. (New) A kit according to Claim 19 wherein the lanthanide metal cation is selected from the group consisting of: Tb III, Eu III, Sm III, and Dy III.

34. (New) A kit according to Claim 33 wherein the lanthanide metal cation is selected from the group consisting of: Eu III or Tb III.